Nack Suppression for Multicast Protocols in Mostly One-Way Networks

ABSTRACT OF THE DISCLOSURE:

In a multicasting system content is multicast from a sender to a plurality of receivers over a data network. Each receiver independently determines whether it is missing elements or packets of the content. Receivers having missing content each initiate a random timer. The receiver having the shortest random interval unicasts a negative acknowledgement to the sender, which immediately multicasts the negative acknowledgement to the other receivers. All other receivers having the same missing packet thereupon suppress their own negative acknowledgements as to that packet. A repair transmission is then multicast by the sender to all receivers. The random intervals have upper and lower bounds according to the round trip transmission time and the size of the largest missing data element.